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Estimation of Stress-Strength Parameter for Burr Type XII Distribution Based on Progressive Type-II Censoring

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Abstract : In this paper, the estimation of stress-strength parameter R = P(Y < X) is considered when X; Y the strength and stress respectively are two independent random variables of Burr Type XII distribution. The samples taken for X and Y are progressively censoring of type II. The maximum likelihood estimator (MLE) of R is obtained when the common parameter is unknown. But when the common parameter is known the MLE, uniformly minimum variance unbiased estimator (UMVUE) and the Bayes estimator of R = P(Y < X) are obtained. The exact condence interval of R based on MLE is obtained. The performance of the proposed estimators is compared using the computer simulation.

Keywords : Burr Type XII distribution, progressive type-II censoring, stress-strength model, unbiased estimator, maximum-likelihood estimator, uniformly minimum variance unbiased estimator, confidence intervals, Bayes estimator
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